Education and Innovation Committee
Parliament House
Brisbane QLD 4000

To whom it may concern,

I am writing the following submission as an ex-student from the public-schooling system, and as a current undergraduate university student.

It is my opinion that the current assessment methodology in Senior Mathematics and Science is flawed, and ought to be reformed in a way that emphasizes simplification, fairness and clarity.

Firstly, I appreciate the objectives of the current system, which presumably are to provide a strong framework for inexperienced teachers and to increase the level of academic standardization across Queensland. Whilst these are admirable goals, it is my opinion that the current system has been made overly complex to the point that:

- Teachers have difficulty in comprehending the assessment criterion, which distracts inexperienced teachers from more important issues, and stifles experienced teachers in their attempts to properly educate their students.
- Students are confused about what is expected of them, which undoubtedly causes student performance to fall and/or become erratic.
- Confusion from staff and students has caused a step backwards in standardization, as each student and teacher walk away with a different interpretation of the assessment criterion.

As such, whilst I think that the current system has the right objectives; it needs to be simplified in order to achieve them.

The assessment criteria, once comprehended, focuses on sensible issues, including justification (working of the problem), the fundamentals (mathematical and physical units, etc) and the assumptions involved in the solution (including the justification of these assumptions, and the corresponding limits of the solution). It is vitally important that students have a firm grounding in these issues, but I don't think it necessary to force teachers to fill out marking rubrics which include them. At university, the examiners are deemed to be sufficiently 'trusted' to assess their students much more independently (using simple numerical grades), despite the fact they aren't necessarily any more qualified than a secondary school teacher.

In short, I don't believe that simplification of the assessment system (to a model wherein numerical grades are used primarily) will result in a fall in students understanding of the core principles mentioned above, as most teachers understand their importance, and the 'panel' system will ensure a degree of standardization.

It has also come to my attention that Chemistry students are now being required to write essays as part of their assessment. Whilst I accept the importance of essay writing, the Humanities and English subjects are the place to develop them, not the Science faculty. As essays are essentially

structured but opinioned arguments, I fail to see how they are remotely compatible with the objective search for understanding, the core principle of scientific thought, or how they would be of much use in a professional scientific context.

In contrast, EEIs are extremely relevant to the pursuit of education in science, and prepare students much more thoroughly for professional practice. As such, any reform ought to allow for more frequent EEIs. That being said, EEIs are often group assessments, with relatively vague scopes of inquiry. Although these characteristics make EEIs even more like professional practice, it does make the fair assessing of EEIs more difficult. As such, I would recommend increasing the number of EEIs, but reducing their overall contribution to the student's grades.

To conclude, I think it is important to simplify the assessment criterion for Mathematics and Science in senior schooling. Education is fundamentally based upon the communication of teachers and students, and to complicate this dialogue unnecessarily would be a great blow to all the students in Queensland who are desperately trying to learn, participate and succeed.

James Penfold